Dear Jim,

Your 2/16/00 letter was a delightful surprise To answer your questions will bring back many fond memories.

I was working as Director of Electronics Research at Kearfott Guidance in Little Falls New Jersey in 1961. I had a Ph.D. in physics and had an extensive background in missile telemetry and solid state. A cohort of mine was Irv Leiberman who had been hired to develop a guidance computer for missiles and aircraft that he had dreamed up. Irv was a genius with very advanced ideas on structure and organization of computers. We became friends and one day he hinted that he had an idea for a mechanical computer that worked by having marbles roll through gates. Meanwhile my wife and I had befriended a young man from Tulsa who was starting at Stevens Institute in mechanical engineering. We had an old house in Montclair with a bedroom and bath on the third floor, so we took him in with us. He was Dave Hogan. Well I finally got Irv to reveal how he was going to make his computer and it appeared very impractical to me. With Irv's permission I discussed it with Dave and he agreed with me. After many brainstorming sessions we came up with the idea of using mechanical planes as the connections and clock and pivoting rods interrupted by tabs to form the binary functions. The first digicomp was made of six circular planes with the rods positioned all around. And it worked so well that we got a booth and demonstrated it at the Annual March Toy Fair held in NYC . But with all those planes and gates (the unit was about a foot in diameter) we seemed to scare off most buyers even though they were intrigued with the concept. Well along came a buyer from Sears &Roebuck who said he would love to put it his catalog but couldn't we make it simpler, perhaps just a section of the unit. Wow!! We went home and that night worked through, first brain storming (Irv was upset because he felt a small unit could not handle many programs, but when pressed he agreed that he could think some neat ones. The next day we cut up that stiff compressed paper stuff and literally created the first Digicomp in almost hours. (by the way, Dave had found a source for Orthodontist rubber bands that he used for the springs!!) We brought it back to the show and the Sears Buyer agreed that as soon as we had a production model he would put it in his catalogue

We fortunately found a chap who was brilliant at designing plastic injection molds so we gave him the contract Of coarse Dave worked with him closely and after several months we had our first samples of the Digicomp parts. Dave also engineered the rods and eventually the wire springs so that they could be mass produced.

In the meantime we formed ESR which stood for Electronic Systems Research but couldn't find a name that wasn't already taken so our attorney suggested using just the initials, developed the games and the manuals, raised money by going public ourselves (most people don't know it but you can do it yourself. In fact we found out that the SEC attorneys who judge the prospectus will help you if you ask for it!!). rented a facility and got ready for production. The sales from the digicomp catalog exceeded our expectations. We had many exciting moments such as when Macy's sold out within hours after putting the Digicomp boxes out at Christmas.

Another thing we did was to tell our bosses at Kearfott what we were doing and get them to agree in writing that we were not in competition with them. I t was fun to be walking down the hall and have the president ask how sales were going!!

We had suggested in the first manual that we would welcome suggestions for additional programs that Digicomp could handle and the response was fantastic. We got programs from adults and many from children. I remember several that a nine year old boy sent from Tulsa that showed a very keen mind.And this response justified our belief that one of the things our Digicomp was doing was to stimulate the interest and minds of the users. the result of this response was that Dave, who had been taking advanced courses at Stevens wrote the additional manual which developed the programs in Boolean algebra, Venn diagrams, truth tables, etc. And we also published many of the user submitted programs in another manual.

Another exciting event was the day that Stacy Jones published our Digicomp as the patent of the week on the front page of the second section of The New York Times, which he did each in each Saturday edition. A few weeks later he called to tell us that the response to our Digicomp was by far the greatest he had ever had to any patent of the week! I've enclosed a copy of his review. I've also included a copy of an article in the New Sunday News.

I am very sorry to say that Dave passed away two years ago. We still keep in touch with his widow out in Arizona.

It was also pleasing to read the article in Creative Computing of 1984 arguing that our Digicomp was the first true home computer. I've enclosed a copy of that article also.

To continue, a short time after Digicomp was on the market, My wife and I were interrupted at our meal at a restaurant (we had left our number with the baby sitter) by the waiter saying there was a call for me. It was John Godfrey, an engineer with GE in Schenectady. John said he was so excited after getting Digicomp to find some people who might understand his inventions, Dr. Nim and, later called, Digicomp 11. Of course we invited him down to our plant in Jersey and immediately saw the possibilities. Dave was able to design Dr. Nim for plastic molding and it was put on the market. John also had a model of 11 which involved marbles rolling through gates in the same manner as Dr. Nim.. He and Dave built enough models and developed a manual which was tried out in the local school system. but getting the teachers to be able to understand it sufficiently was the problem. So Digi 11 languished unfortunately. John Godfrey lives just below me in Punta Gorda at 941-637-0532. His e-mail is jackg@sunline.net. I called him immediately after receiving your letter and he was as excited as I was. Incidentally, as a result of his contacts through ESR, John was set up in an on-line business which calculated the required mix of additives of a blast furnace to turn out the optimum desired steel. He set the company which he named On-Line Systems in Pittsburg. It was eminently successful and eventually sold to MCI making John rather wealthy.

About the same time John called, another chap, Joe Weisbecker called for the same reason. He was working for RCA in the Princeton area and had invented a mechanical computer that also used marbles. We had him come up and fell in love with it and named it Think-a-Dot. Again Dave redesigned it for plastic injection molding and we put it on the market. I had a chap working for me at Kearfott who had a thirteen year old genius for a son. We sent him a Think-a Dot and a few days later he came back with the advice that this was an octal based machine. So we included this in the manual that you see today. In time, two Ph.D. theses, one in Australia and one at Columbia used Think-a-Dot for part of the development. Needless to say, we were all very pleased to see what an impact our ideas had on the technical community.. I lost touch with Joe many years ago so I don't know whether he is still with us.

Eventually sales of the computers dropped off. Let's face it, we were quite a bit ahead of the times. We were able to purchase a Long Island Co., Educards Inc and there we developed a group of educational games that had reasonable market acceptance. This drew the attention of Binney and Smith, the makers of Crayola crayons and they purchased ESR for stock. So all the original investors made out reasonably well when later on Binney was purchased for cash. But Binney never put the computers back on the market. I eventually went back to Kearfott and retired from there in 1993. Dave went to Arizona and set up a very successful resort which his wife runs today. Irv dropped out of sight over 25 years ago when he tried to set up a recording business in California Dave and I were unable to find him after that.

I gave each of my three children a sample of the three computers and I also have a sampling plus some extra Think-a-Dots. I gave John the Digi e-mail address so you may have already heard that he has a models of Digi11 as well as some manuals and further thoughts on the operation of Think-a-Dot.

Well that's a brief history and status of our work It's been fun resurrecting it from my ever failing memory. Don't hesitate to call me or John or write for any other questions you may have. My e-mail is ~~Billd49397@AOL~~ [redacted]

Thanks for your interest.

Bill